



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

OFFICE OF THE
SECRETARY

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Secretary's Order No. : 2015-CZ-0011

RE: Application of Croda, Inc., for a Coastal Zone Act Permit to construct and operate a facility for the on-site manufacture of ethylene oxide from ethanol feedstock in a continuous multi-step catalyzed process at their facility located at 315 Cherry Lane, New Castle, Delaware

Date of Issuance: **April 6, 2015**

Effective Date: **April 6, 2015**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control (Department" or "DNREC") pursuant to 7 *Del.C.* §§6001 *et seq.*, 7 *Del.C.* §§7001 *et seq.*, and the Department's Coastal Zone Act Regulations, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced Coastal Zone Act permitting proceeding.

Background, Procedural History and Findings of Fact

The applicant, Croda, Inc. ("Applicant"), seeks a Coastal Zone Act ("CZA") Permit to construct and operate a facility for the on-site manufacture of ethylene oxide from ethanol feedstock in a continuous multi-step catalyzed process. The proposed facility will be constructed within the footprint of an existing grandfathered non-

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conforming use site, as defined by the CZA, (previously known as the Uniqema site), hereinafter referred to as, "Proposed Facility". Ethanol will be delivered to the site in railcars or tank trucks, and transferred to storage tanks. The process begins with the dehydration of ethanol, which produces ethylene vapor together with water vapor. The ethylene oxide is partially oxidized in a catalytic converter to form ethylene oxide. The resultant ethylene oxide is purified and sent to on-site storage for consumption by existing alkoxylation reactor systems. The proposed project will replace the Applicant's current purchase of ethylene oxide, which, at this time, is brought in by rail car. Environmental impacts are anticipated; however, the Applicant's offset proposal is a combination of voluntary improvement projects and emission reduction credits from the Delaware Economic Development Office, which will more than achieve the offset required under Delaware's Coastal Zone Regulations.

The Department requires a CZA applicant to set forth in its application the proposed project's possible environmental impacts, including, but not limited to, any increased air emissions of pollutants, water quality/water quantity/water use, and the disposal of solid and hazardous wastes. Furthermore, any application for a CZA permit for an activity or facility that will result in any negative environmental impact shall contain an offset proposal, which will more than offset the proposed negative impacts of any proposed project.

In the present matter, Croda, Inc.'s proposed project will result in the following annual air emissions (in tons per year): Oxides of Nitrogen ("NO_x"), 3.6; Sulfur Dioxide ("SO₂"), 0.035; Volatile Organic Compounds ("VOCs"), 3.9; Total Suspended Particulates ("TSPs"), 0.44; Carbon Monoxide ("CO"), 4.8; Hazardous Air Pollutants

("HAPs"), 1.1; and Carbon Dioxide ("CO₂"), 18,900. In terms of water supply, preliminary estimates are that boiler feed water for steam production will increase by approximately 30,000 gallons per day, and make-up cooling water use will increase by approximately 50,000 gallons per day, on average. Potable water supplied to the site is divided evenly between water purchased from United Water Delaware and on-site well water. Additional solid waste from construction debris, and regular operations including packaging materials and process filters are expected but cannot be estimated at this time. Some additional flammable hazardous waste from process filters, samples and quality control laboratory operation will be generated. The quantity cannot be accurately estimated at this time, but is not expected to exceed 400 pounds per month. No other environmental impacts are anticipated.

With respect to needed offset proposals obtained by the Applicant in this matter, Croda, Inc. has obtained 7 tons of offset credits (2 NO_x Ozone Season and 1 NO_x non-ozone season, 3 VOC Ozone Season, and 1 VOC non-ozone season) from the Delaware Economic Development Office ("DEDO") as a component of their air offset. Additionally, the Applicant's voluntary improvement projects have resulted in a total of 3.9 tons per year of emission reduction. That, combined with the aforementioned acquired emission offset credits (7 tons per year from DEDO), will more than offset this proposed project's air emissions. Solid wastes will be recycled to the maximum extent possible, and hazardous wastes will be disposed of at permitted hazardous waste disposal facilities outside of the Delaware Coastal Zone.

The Department's CZA Program has long used a 1.3:1 ration of offsets to new emissions as a target in negotiating offset projects with applicants. In the present case,

Croda, Inc., using offsets from past voluntary improvements in combination with DEDO credits, achieves the 1.3:1 target. No offsets for CO₂ or CO are normally required under the CZA Program.

The Department provided public notices of this CZA Application submission and the determination of an administratively complete application following the Secretary's Assessment, which was signed on January 15, 2015. CZA Regulation 8.3.6 requires that the Secretary shall, within ninety (90) days of receipt of an administratively complete application, reply to the request for a CZA permit by "...either granting the permit, denying the permit, or granting the permit, but with special conditions. The Secretary shall state the reasons for his decision." In the present instance, the ninety (90) day deadline is April 15, 2015.

A duly noticed public hearing was held on February 11, 2015, at the DNREC offices located at 391 Lukens Drive, New Castle, Delaware. Public comments were received by the Department at the time of said public hearing, and the same were thoroughly addressed by the Division of Energy and Climate, as reflected in the hearing record generated in this matter. Subsequent to the public hearing of February 11, 2015, the Department's presiding Hearing Officer, Lisa A. Vest, prepared a Hearing Officer's Report dated March 18, 2015 ("Report").

Reasons and Conclusions

Based on the record developed by the Department's experts and established by the Hearing Officer's Report, I find and conclude that the record developed in this matter supports approval of Croda, Inc.'s application for its CZA permit, as consistent with the intent of the CZA and its regulations, which is to balance the economic and

environmental interests of the State of Delaware. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that the currently pending CZA Permit Application of Croda, Inc., to construct and operate a facility for the on-site manufacture of ethylene oxide from ethanol feedstock in a continuous multi-step catalyzed process, be *granted*.

It should be noted that Croda, Inc., continues to pursue the goals of the company's sustainability strategy. The Proposed Facility will be constructed within the footprint of an existing grandfathered non-conforming use site (previously known as the Uniqema site). The project will eliminate the transportation of ethylene oxide via railcar that currently travel from Gulf Coast manufacturing facilities to the Atlas Point site. The project will create approximately 200-250 jobs during construction of the Proposed Facility, and an additional 28 permanent jobs when completed.

Accordingly, I direct that a Coastal Zone Act permit be issued to the Applicant, and that the following reasons and conclusions are entered:

1. The Department has jurisdiction under its statutory authority to issue a CZA Permit to the Applicant, subject to reasonable permit conditions deemed appropriate and consistent with the CZA's purposes;
2. The Department provided adequate and lawful public notice of the Coastal Zone Act Application of Croda, Inc., and of the public hearing held on February 11, 2015, and held said hearing to consider any public comment that may be offered on the application, in a manner required by the law and regulations;

3. The permit applied for by Croda, Inc., is for production/manufacturing activities which will take place within the defined Coastal Zone of Delaware, and is for a new manufacturing activity to be constructed within the footprint of an existing grandfathered non-conforming use site (previously known as the Uniqema site) located within the Coastal Zone of Delaware, which requires a CZA permit for the same, to wit: to construct and operate a facility for the on-site manufacture of ethylene oxide from ethanol feedstock in a continuous multi-step catalyzed process. The project will eliminate the transportation of ethylene oxide via railcar that currently travel from Gulf Coast manufacturing facilities to the Atlas Point site. Environmental impacts are anticipated, however, the Applicant's offset proposal is a combination of voluntary improvement projects and emission reduction credits from the Delaware Economic Development Office, which will more than achieve the offset required under Delaware's Coastal Zone Regulations;
4. The Department has carefully considered the factors required to be weighed in issuing a CZA permit, and finds that the proposed use is appropriate for the Coastal Zone at the proposed location, and that it should be permitted as set forth in Croda, Inc.'s application;
5. The Department shall issue a permit to the Applicant, Croda, Inc., and said permit shall include all conditions consistent with the final Order and any other reasonable conditions that the Department includes in a CZA permit, to

ensure that Delaware's environment will be protected from harm, consistent with the CZA and its regulations;

6. The Department has carefully considered all the statutory factors to be considered in making a decision on a CZA permit and those required to be considered under the CZA regulations;
7. This Proposed Facility will allow the Applicant to operate its business while reducing the overall environmental impacts to the Coastal Zone area, in furtherance of the purposes of 7 *Del. C.*, Ch. 70;
8. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary;
9. The Department shall serve and publish its Order on all affected persons in a manner consistent with the service and publication of Secretary's Order.



David S. Small
Secretary

